

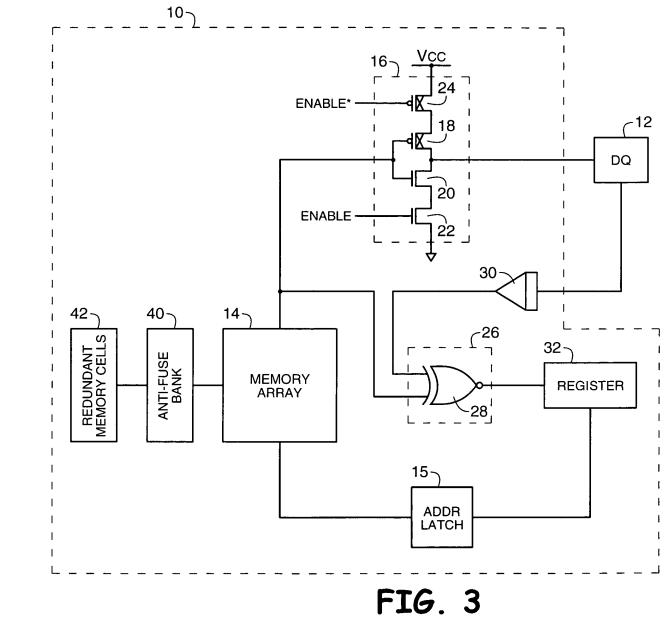
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#### CLOCK CYCLE PRIOR ART TEST METHOD

## CLOCK CYCLE EXEMPLARY TEST METHOD

| 1  | WRITE TO 1ST ADDR OF CHIPS A, B, C, & D | WRITE TO 1ST ADDR OF CHIPS A, B, C, & D  |
|----|---|--|
| 2  | WRITE TO 2ND ADDR OF CHIPS A, B, C, & D | WRITE TO 2ND ADDR OF CHIPS A, B, C, & D  |
| 3  | WRITE TO 3RD ADDR OF CHIPS A, B, C, & D | WRITE TO 3RD ADDR OF CHIPS A, B, C, & D  |
| 4  | WRITE TO 4TH ADDR OF CHIPS A, B, C, & D | WRITE TO 4TH ADDR OF CHIPS A, B, C, & D  |
| 5  | READ FROM 1ST ADDR OF CHIP A            | READ FROM 1ST ADDR OF CHIPS A, B, C, & D |
| 6  | READ FROM 2ND ADDR OF CHIP A            | READ FROM 2ND ADDR OF CHIPS A, B, C, & D |
| 7  | READ FROM 3ND ADDR OF CHIP A            | READ FROM 3RD ADDR OF CHIPS A, B, C, & D |
| 8  | READ FROM 4TH ADDR OF CHIP A            | READ FROM 4TH ADDR OF CHIPS A, B, C, & D |
| 9  | READ FROM 1ST ADDR OF CHIP B            | READ FAIL FLAG FROM A                    |
| 10 | READ FROM 2ND ADDR OF CHIP B            | READ FAIL FLAG FROM B                    |
| 11 | READ FROM 3RD ADDR OF CHIP B            | READ FAIL FLAG FROM C                    |
| 12 | READ FROM 4TH ADDR OF CHIP B            | READ FAIL FLAG FROM D                    |
| 13 | READ FROM 1ST ADDR OF CHIP C            |  |
| 14 | READ FROM 2ND ADDR OF CHIP C            |  |
| 15 | READ FROM 3RD ADDR OF CHIP C            |  |
| 16 | READ FROM 4TH ADDR OF CHIP C            |  |
| 17 | READ FROM 1ST ADDR OF CHIP D            |  |
| 18 | READ FROM 2ND ADDR OF CHIP D            |  |
| 19 | READ FROM 3RD ADDR OF CHIP D            |  |
| 20 | READ FROM 4TH ADDR OF CHIP D            |  |
|    |   |  |

FIG. 2



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#### CLOCK CYCLE PRIOR ART TEST METHOD

## CLOCK CYCLE EXEMPLARY TEST METHOD

| 1  | WRITE TO 1ST ADDR OF CHIPS A, B, C, & D | WRITE TO 1ST ADDR OF CHIPS A, B, C, & D  |
|----|---|--|
| 2  | WRITE TO 2ND ADDR OF CHIPS A, B, C, & D | WRITE TO 2ND ADDR OF CHIPS A, B, C, & D  |
| 3  | WRITE TO 3RD ADDR OF CHIPS A, B, C, & D | WRITE TO 3RD ADDR OF CHIPS A, B, C, & D  |
| 4  | WRITE TO 4TH ADDR OF CHIPS A, B, C, & D | WRITE TO 4TH ADDR OF CHIPS A, B, C, & D  |
| 5  | WRITE TO 5TH ADDR OF CHIPS A, B, C, & D | WRITE TO 5TH ADDR OF CHIPS A, B, C, & D  |
| 6  | READ FROM 1ST ADDR OF CHIP A            | READ FROM 1ST ADDR OF CHIPS A, B, C, & D |
| 7  | READ FROM 2ND ADDR OF CHIP A            | READ FROM 2ND ADDR OF CHIPS A, B, C, & D |
| 8  | READ FROM 3RD ADDR OF CHIP A            | READ FROM 3RD ADDR OF CHIPS A, B, C, & D |
| 9  | READ FROM 4TH ADDR OF CHIP A            | READ FROM 4TH ADDR OF CHIPS A, B, C, & D |
| 10 | READ FROM 5TH ADDR OF CHIP A            | READ FROM 5TH ADDR OF CHIPS A, B, C, & D |
| 11 | READ FROM 1ST ADDR OF CHIP B            | READ FAIL FLAG FROM A                    |
| 12 | READ FROM 2ND ADDR OF CHIP B            | READ FAIL FLAG FROM B                    |
| 13 | READ FROM 3RD ADDR OF CHIP B            | READ FAIL FLAG FROM C                    |
| 14 | READ FROM 4TH ADDR OF CHIP B            | READ FAIL FLAG FROM D                    |
| 15 | READ FROM 5TH ADDR OF CHIP B            |  |
| 16 | READ FROM 1ST ADDR OF CHIP C            |  |
| 17 | READ FROM 2ND ADDR OF CHIP C            |  |
| 18 | READ FROM 3RD ADDR OF CHIP C            |  |
| 19 | READ FROM 4TH ADDR OF CHIP C            |  |
| 20 | READ FROM 5TH ADDR OF CHIP C            |  |
| 21 | READ FROM 1ST ADDR OF CHIP D            |  |
| 22 | READ FROM 2ND ADDR OF CHIP D            |  |
| 23 | READ FROM 3RD ADDR OF CHIP D            |  |
| 24 | READ FROM 4TH ADDR OF CHIP D            |  |
| 25 | READ FROM 5TH ADDR OF CHIP D            |  |
|    |   | -  |

FIG. 4

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# CLOCK CYCLE PRIOR ART TEST METHOD

# CLOCK CYCLE EXEMPLARY TEST METHOD

| 1  | WRITE TO 1ST ADDR OF CHIPS A, B, C, D, & E | WRITE TO 1ST ADDR OF CHIPS A, B, C, D, & E  |
|----|--|---|
| 2  | WRITE TO 2ND ADDR OF CHIPS A, B, C, D, & E | WRITE TO 2ND ADDR OF CHIPS A, B, C, D, & E  |
| 3  | WRITE TO 3RD ADDR OF CHIPS A, B, C, D, & E | WRITE TO 3RD ADDR OF CHIPS A, B, C, D, & E  |
| 4  | WRITE TO 4TH ADDR OF CHIPS A, B, C, D, & E | WRITE TO 4TH ADDR OF CHIPS A, B, C, D, & E  |
| 5  | READ FROM 1ST ADDR OF CHIP A               | READ FROM 1ST ADDR OF CHIPS A, B, C, D, & E |
| 6  | READ FROM 2ND ADDR OF CHIP A               | READ FROM 2ND ADDR OF CHIPS A, B, C, D, & E |
| 7  | READ FROM 3RD ADDR OF CHIP A               | READ FROM 3RD ADDR OF CHIPS A, B, C, D, & E |
| 8  | READ FROM 4TH ADDR OF CHIP A               | READ FROM 4TH ADDR OF CHIPS A, B, C, D, & E |
| 9  | READ FROM 1ST ADDR OF CHIP B               | READ FAIL FLAG FROM A                       |
| 10 | READ FROM 2ND ADDR OF CHIP B               | READ FAIL FLAG FROM B                       |
| 11 | READ FROM 3RD ADDR OF CHIP B               | READ FAIL FLAG FROM C                       |
| 12 | READ FROM 4TH ADDR OF CHIP B               | READ FAIL FLAG FROM D                       |
| 13 | READ FROM 1ST ADDR OF CHIP C               | READ FAIL FLAG FROM E                       |
| 14 | READ FROM 2ND ADDR OF CHIP C               |   |
| 15 | READ FROM 3RD ADDR OF CHIP C               |   |
| 16 | READ FROM 4TH ADDR OF CHIP C               |   |
| 17 | READ FROM 1ST ADDR OF CHIP D               |   |
| 18 | READ FROM 2ND ADDR OF CHIP D               |   |
| 19 | READ FROM 3RD ADDR OF CHIP D               |   |
| 20 | READ FROM 4TH ADDR OF CHIP D               |   |
| 21 | READ FROM 1ST ADDR OF CHIP E               |   |
| 22 | READ FROM 2ND ADDR OF CHIP E               |   |
| 23 | READ FROM 3RD ADDR OF CHIP E               |   |
| 24 | READ FROM 4TH ADDR OF CHIP E               |   |
|    |  |   |

FIG. 5

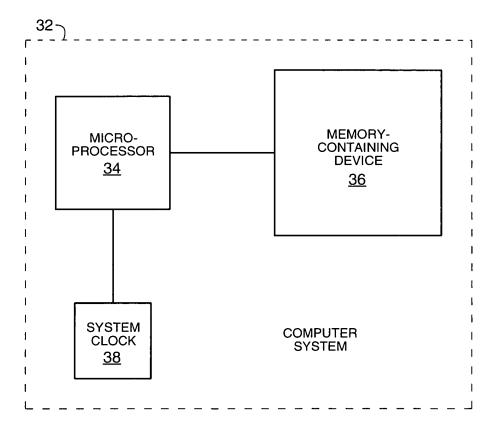


FIG. 6